

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1-31. (Cancelled)

32. (New) A transmission apparatus that transmits modulated signals of independent channels, the transmission apparatus comprising:

a plurality of antennas that transmit the modulated signals;

an eigenvalue calculator that calculates an eigenvalue of a channel matrix generated using the modulated signals received by a communicating party; and

an antenna controller that selects one or more antennas transmitting the modulated signals based on the eigenvalue and outputs determined information as a control signal.

33. (New) A communication method by which wireless communication is performed using a plurality of antennas in both a transmission apparatus and a reception apparatus, the communication method comprising:

transmitting, by the transmission apparatus, modulated signals of independent channels from the antennas;

calculating, by the reception apparatus, an eigenvalue corresponding to a channel matrix formed by channel estimation values of the received modulated signals; and

selecting, by the transmission apparatus, one or more antennas transmitting the modulated signals based on the eigenvalue and transmitting determined information as a control signal.

34. (New) A communication method for a system in which wireless communication is performed using a plurality of antennas in both a transmission apparatus and a reception apparatus, the communication method comprising:

estimating an overall reception electric field strength of the system;

calculating an eigenvalue corresponding to a channel matrix formed by channel estimation values and calculating an effective reception electric field strength, the effective reception electric field strength comprising a reception electric field strength available for demodulation processing based on the eigenvalue;

controlling a parameter based on the overall reception electric field strength of the system and the effective reception electric field strength; and

transmitting a signal processed with the controlled parameter in the transmission apparatus.

35. (New) A communication method for a system in which wireless communication is carried out using a plurality of antennas in a transmission apparatus and a reception apparatus, the communication method comprising:

estimating an overall reception electric field strength of the system;

calculating an eigenvalue corresponding to a channel matrix formed by channel estimation values and calculating an effective reception electric field strength, the effective reception electric field strength comprising a reception electric field strength available for demodulation processing based on the eigenvalue;

controlling a parameter based on the overall reception electric field strength of the system and the effective reception electric field strength; and

receiving a signal with the controlled parameter by the reception apparatus.

36. (New) A reception apparatus for a system in which wireless communication is carried out using a plurality of antennas in both a transmission apparatus and a reception apparatus, the reception apparatus comprising:

- an electric field strength estimator that estimates an overall reception electric field strength of the system;

- an eigenvalue calculator that calculates an eigenvalue corresponding to a channel matrix formed by channel estimation values;

- an effective electric field strength calculator that calculates an effective reception electric field strength, the effective reception electric field strength comprising a reception electric field strength available for demodulation processing based on the eigenvalue;

- a frame configuration controller that controls a parameter based on the overall reception electric field strength of the system and the effective reception electric field strength and that transmits information indicating the controlled parameter to the transmission apparatus; and

- a receiver that receives, at the plurality of antennas, a signal processed with the controlled parameter and transmitted by the transmission apparatus.

37. (New) A transmission apparatus comprising:

- a signal processor that processes a signal using a parameter transmitted from the reception apparatus according to claim 36; and

- a transmitter that transmits a signal processed at the signal processor, to the reception apparatus from a plurality of antennas.